10/786,240 2/3/2006

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	68	548/404.ccls.	US-PGPUB; USPAT	OR	ON	2006/02/03 14:12
L2	456	548/413.ccls.	US-PGPUB; USPAT	OR	ON	2006/02/03 14:13
L3	329	514/425.ccls.	US-PGPUB; USPAT	OR	ON	2006/02/03 14:13
L4	0	l1 AND l2	US-PGPUB; USPAT	OR	ON	2006/02/03 14:13
L5	0	l1 AND l3	US-PGPUB; USPAT	OR	ON	2006/02/03 14:13
L6	9	l2 AND l3	US-PGPUB; USPAT	OR	ON	2006/02/03 14:14
L7	0	"658".ccls.	US-PGPUB; USPAT	OR	ON	2006/02/03 14:14
L8	104	568/10.ccls.	US-PGPUB; USPAT	OR	ON	2006/02/03 14:15
L9	5	514/767.ccls.	US-PGPUB; USPAT	OR	ON	2006/02/03 14:15
L10	0	L8 AND L9	US-PGPUB; USPAT	OR	ON	2006/02/03 14:16
L11	3	L8 AND L2	US-PGPUB; USPAT	OR	ON	2006/02/03 14:16

10/786,240

Connecting via Winsock to STN

Welcome to STN International! Enter x:x

LOGINID:SSPTAYLC1626

PASSWORD:
TERMINAL (ENTER 1, 2, 3, OR ?):2

* * * * * * * * * * Welcome to STN International * * * * * * * * * *

NEWS 1		Web Page URLs for STN Seminar Schedule - N. America
NEWS 2		"Ask CAS" for self-help around the clock
NEWS 3	DEC 05	CASREACT(R) - Over 10 million reactions available
NEWS 4	DEC 14	2006 MeSH terms loaded in MEDLINE/LMEDLINE
NEWS 5	DEC 14	2006 MeSH terms loaded for MEDLINE file segment of TOXCENTER
NEWS 6	DEC 14	CA/CAplus to be enhanced with updated IPC codes
NEWS 7	DEC 21	IPC search and display fields enhanced in CA/CAplus with the IPC reform
NEWS 8	DEC 23	New IPC8 SEARCH, DISPLAY, and SELECT fields in USPATFULL/ USPAT2
NEWS 9	JAN 13	IPC 8 searching in IFIPAT, IFIUDB, and IFICDB
NEWS 10	JAN 13	New IPC 8 SEARCH, DISPLAY, and SELECT enhancements added to INPADOC
NEWS 11	JAN 17	Pre-1988 INPI data added to MARPAT
NEWS 12	JAN 17	IPC 8 in the WPI family of databases including WPIFV
NEWS 13	JAN 30	Saved answer limit increased
NEWS 14	JAN 31	Monthly current-awareness alert (SDI) frequency added to TULSA

NEWS EXPRESS JANUARY 03 CURRENT VERSION FOR WINDOWS IS V8.01,
CURRENT MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP),
AND CURRENT DISCOVER FILE IS DATED 19 DECEMBER 2005.
V8.0 USERS CAN OBTAIN THE UPGRADE TO V8.01 AT
http://download.cas.org/express/v8.0-Discover/

NEWS HOURS	STN Operating Hours Plus Help Desk Availability
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NEWS LOGIN	Welcome Banner and News Items
NEWS PHONE	Direct Dial and Telecommunication Network Access to STN
NEWS WWW	CAS World Wide Web Site (general information)

Enter NEWS followed by the item number or name to see news on that specific topic.

* * * * * * * * * * * * * STN Columbus * * * * * * * * * * * * * * * *

FILE 'HOME' ENTERED AT 07:08:30 ON 03 FEB 2006

=> file reg

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	0.21	0.21

FILE 'REGISTRY' ENTERED AT 07:08:40 ON 03 FEB 2006

Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 1 FEB 2006 HIGHEST RN 873294-13-4
DICTIONARY FILE UPDATES: 1 FEB 2006 HIGHEST RN 873294-13-4

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH JULY 14, 2005

Please note that search-term pricing does apply when conducting SmartSELECT searches.

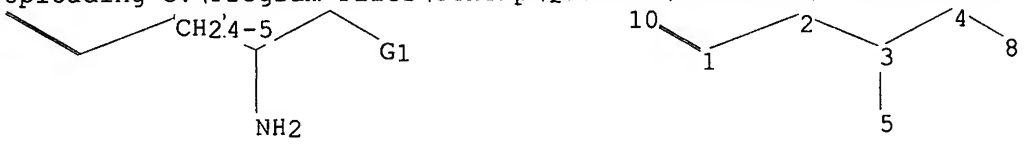
****
*
* The CA roles and document type information have been removed from *
* the IDE default display format and the ED field has been added, *
* effective March 20, 2005. A new display format, IDERL, is now *
* available and contains the CA role and document type information. *
*
****

Structure search iteration limits have been increased. See HELP SLIMITS for details.

REGISTRY includes numerically searchable data for experimental and predicted properties as well as tags indicating availability of experimental property data in the original document. For information on property searching in REGISTRY, refer to:

http://www.cas.org/ONLINE/UG/regprops.html

=>
Uploading C:\Program Files\Stnexp\Queries\10786240\10786240.str



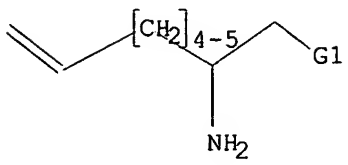
chain nodes :
1 2 3 4 5 8 10
chain bonds :
1-2 1-10 2-3 3-4 3-5 4-8
exact/norm bonds :
3-5 4-8
exact bonds :
1-2 1-10 2-3 3-4

G1:OH,SH

Match level :
1:CLASS 2:CLASS 3:CLASS 4:CLASS 5:CLASS 8:CLASS 10:CLASS

L1 STRUCTURE UPLOADED

=> d
L1 HAS NO ANSWERS
L1 STR



G1 OH,SH

Structure attributes must be viewed using STN Express query preparation.

=> s l1
SAMPLE SEARCH INITIATED 07:09:00 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED - 2407 TO ITERATE

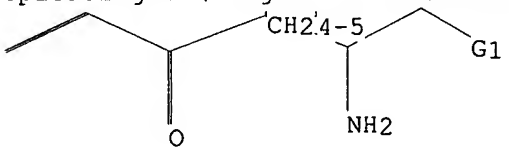
83.1% PROCESSED 2000 ITERATIONS 0 ANSWERS
INCOMPLETE SEARCH (SYSTEM LIMIT EXCEEDED)
SEARCH TIME: 00.00.01

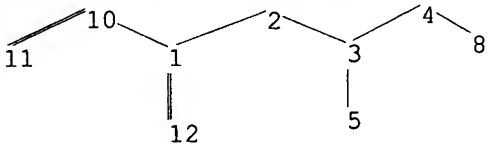
FULL FILE PROJECTIONS: ONLINE **COMPLETE**
BATCH **COMPLETE**
PROJECTED ITERATIONS: 45198 TO 51082
PROJECTED ANSWERS: 0 TO 0

L2 0 SEA SSS SAM L1

=> s l1 1-100
COMBINATION OF STRUCTURE AND TEXT TERMS NOT VALID
The query entered contains both search terms created by
structure-building or screen commands and text search terms. L#s
created via the STRUCTURE or SCREEN commands must be searched in the
structures files separately from text terms or profiles. The L#
answer sets from structure searches can be used in crossover searches
and can be combined with text terms.

=>
Uploading C:\Program Files\Stnexp\Queries\10786240\10786240a.str





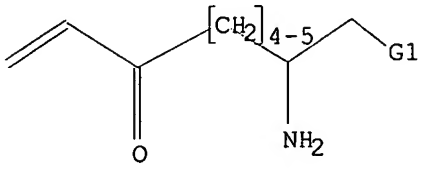
chain nodes :
1 2 3 4 5 8 10 11 12
chain bonds :
1-2 1-10 1-12 2-3 3-4 3-5 4-8 10-11
exact/norm bonds :
1-12 3-5 4-8
exact bonds :
1-2 1-10 2-3 3-4 10-11

G1:OH,SH

Match level :
1:CLASS 2:CLASS 3:CLASS 4:CLASS 5:CLASS 8:CLASS 10:CLASS 11:CLASS 12:CLASS

L3 STRUCTURE UPLOADED

=> d
L3 HAS NO ANSWERS
L3 STR



G1 OH,SH

Structure attributes must be viewed using STN Express query preparation.

=> s l3
SAMPLE SEARCH INITIATED 07:12:20 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED - 1339 TO ITERATE

100.0% PROCESSED 1339 ITERATIONS 0 ANSWERS
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE **COMPLETE**
BATCH **COMPLETE**
PROJECTED ITERATIONS: 24585 TO 28975
PROJECTED ANSWERS: 0 TO 0

L4 0 SEA SSS SAM L3

=>

---Logging off of STN---

=>
Executing the logoff script...

=> LOG Y

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	3.08	3.29

STN INTERNATIONAL LOGOFF AT 07:12:50 ON 03 FEB 2006

Connecting via Winsock to STN

Welcome to STN International! Enter x:x

LOGINID:SSPTAYLC1626

PASSWORD:

```
TERMINAL (ENTER 1, 2, 3, OR ?):2

* * * * * * * * * *   Welcome to STN International   * * * * * * * * * *

 NEWS  1          Web Page URLs for STN Seminar Schedule - N. America
 NEWS  2          "Ask CAS" for self-help around the clock
 NEWS  3  DEC 05  CASREACT(R) - Over 10 million reactions available
 NEWS  4  DEC 14  2006 MeSH terms loaded in MEDLINE/LMEDLINE
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                  IPC reform
 NEWS  8  DEC 23  New IPC8 SEARCH, DISPLAY, and SELECT fields in USPATFULL/
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 NEWS  9  JAN 13  IPC 8 searching in IFIPAT, IFIUDB, and IFICDB
 NEWS 10  JAN 13  New IPC 8 SEARCH, DISPLAY, and SELECT enhancements added to
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 NEWS 11  JAN 17  Pre-1988 INPI data added to MARPAT
 NEWS 12  JAN 17  IPC 8 in the WPI family of databases including WPIFV
 NEWS 13  JAN 30  Saved answer limit increased
 NEWS 14  JAN 31  Monthly current-awareness alert (SDI) frequency
                  added to TULSA

 NEWS EXPRESS  JANUARY 03 CURRENT VERSION FOR WINDOWS IS V8.01,
               CURRENT MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP),
               AND CURRENT DISCOVER FILE IS DATED 19 DECEMBER 2005.
               V8.0 USERS CAN OBTAIN THE UPGRADE TO V8.01 AT
               http://download.cas.org/express/v8.0-Discover/

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 NEWS INTER    General Internet Information
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 NEWS PHONE    Direct Dial and Telecommunication Network Access to STN
 NEWS WWW      CAS World Wide Web Site (general information)

Enter NEWS followed by the item number or name to see news on that
specific topic.

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  research.  Use for software development or design or implementation
  of commercial gateways or other similar uses is prohibited and may
  result in loss of user privileges and other penalties.

  * * * * * * * * * * * * * * STN  Columbus  * * * * * * * * * * * * * * *

FILE 'HOME' ENTERED AT 07:20:38 ON 03 FEB 2006

=> file reg
COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                       ENTRY    SESSION
FULL ESTIMATED COST                                     0.21       0.21

FILE 'REGISTRY' ENTERED AT 07:20:44 ON 03 FEB 2006
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provided by InfoChem.

STRUCTURE FILE UPDATES:     1 FEB 2006  HIGHEST RN 873294-13-4
DICTIONARY FILE UPDATES:    1 FEB 2006  HIGHEST RN 873294-13-4
```

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH JULY 14, 2005

Please note that search-term pricing does apply when conducting SmartSELECT searches.

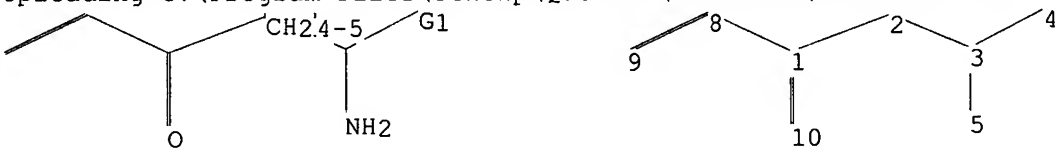
****
*
* The CA roles and document type information have been removed from *
* the IDE default display format and the ED field has been added, *
* effective March 20, 2005. A new display format, IDERL, is now *
* available and contains the CA role and document type information. *
*
****

Structure search iteration limits have been increased. See HELP SLIMITS for details.

REGISTRY includes numerically searchable data for experimental and predicted properties as well as tags indicating availability of experimental property data in the original document. For information on property searching in REGISTRY, refer to:

http://www.cas.org/ONLINE/UG/regprops.html

=>
Uploading C:\Program Files\Stnexp\Queries\10786240\10786240b.str



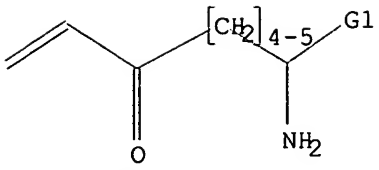
chain nodes :
1 2 3 4 5 8 9 10
chain bonds :
1-2 1-8 1-10 2-3 3-4 3-5 8-9
exact/norm bonds :
1-10 3-4 3-5
exact bonds :
1-2 1-8 2-3 8-9

G1:Hy,PO3H2

Match level :
1:CLASS 2:CLASS 3:CLASS 4:CLASS 5:CLASS 8:CLASS 9:CLASS 10:CLASS

L1 STRUCTURE UPLOADED

=> d
L1 HAS NO ANSWERS
L1 STR



G1 Hy,PO3H2

Structure attributes must be viewed using STN Express query preparation.

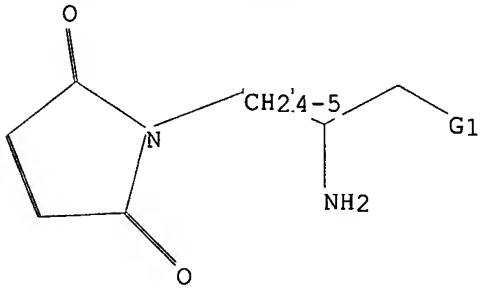
=> s l1
SAMPLE SEARCH INITIATED 07:21:05 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED - 3023 TO ITERATE

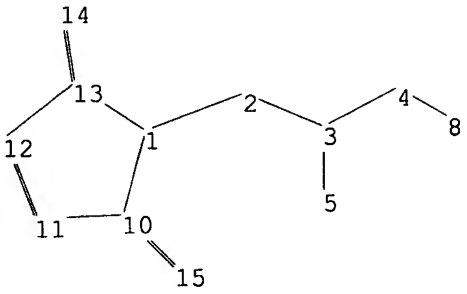
66.2% PROCESSED 2000 ITERATIONS 0 ANSWERS
INCOMPLETE SEARCH (SYSTEM LIMIT EXCEEDED)
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE **COMPLETE**
BATCH **COMPLETE**
PROJECTED ITERATIONS: 57163 TO 63757
PROJECTED ANSWERS: 0 TO 0

L2 0 SEA SSS SAM L1

=>
Uploading C:\Program Files\Stnexp\Queries\10786240\10786240c.str





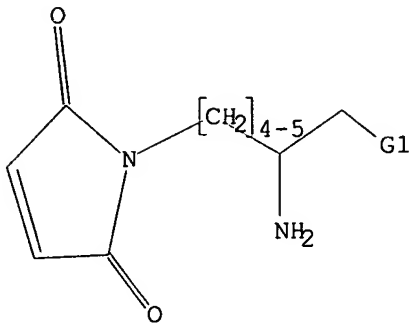
chain nodes :
2 3 4 5 8 14 15
ring nodes :
1 10 11 12 13
chain bonds :
1-2 2-3 3-4 3-5 4-8 10-15 13-14
ring bonds :
1-10 1-13 10-11 11-12 12-13
exact/norm bonds :
1-10 1-13 3-5 4-8 10-11 10-15 11-12 12-13 13-14
exact bonds :
1-2 2-3 3-4

G1:OH,SH

Match level :
1:CLASS 2:CLASS 3:CLASS 4:CLASS 5:CLASS 8:CLASS 10:Atom 11:Atom 12:Atom
13:Atom 14:CLASS 15:CLASS

L3 STRUCTURE UPLOADED

=> d
L3 HAS NO ANSWERS
L3 STR



G1 OH,SH

Structure attributes must be viewed using STN Express query preparation.

=> s l3
SAMPLE SEARCH INITIATED 07:27:53 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED - 145 TO ITERATE

100.0% PROCESSED 145 ITERATIONS 1 ANSWERS
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE **COMPLETE**
BATCH **COMPLETE**
PROJECTED ITERATIONS: 2178 TO 3622
PROJECTED ANSWERS: 1 TO 80

L4 1 SEA SSS SAM L3

=> s l3 full
FULL SEARCH INITIATED 07:28:17 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED - 3298 TO ITERATE

100.0% PROCESSED 3298 ITERATIONS 25 ANSWERS
SEARCH TIME: 00.00.01

L5 25 SEA SSS FUL L3

=> file caplus
COST IN U.S. DOLLARS SINCE FILE ENTRY TOTAL SESSION
FULL ESTIMATED COST 172.22 172.43

FILE 'CAPLUS' ENTERED AT 07:28:31 ON 03 FEB 2006
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
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FILE COVERS 1907 - 3 Feb 2006 VOL 144 ISS 6
FILE LAST UPDATED: 1 Feb 2006 (20060201/ED)

Effective October 17, 2005, revised CAS Information Use Policies apply.
They are available for your review at:

http://www.cas.org/infopolicy.html

=> s l5
L6 36 L5

=> d ibib abs hitstr 20-36

L6 ANSWER 20 OF 36 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1977:171849 CAPLUS
DOCUMENT NUMBER: 86:171849
TITLE: Peptide with antibiotic action
INVENTOR(S): Sarbach, Raymond F. J.; Pacheco, Henri; Morrier, Elisabeth; Yavordios, Dimitri
PATENT ASSIGNEE(S): Institut de Recherche Scientifique (IRS), Fr.
SOURCE: Fr. Demande, 23 pp.
CODEN: FRXXBL
DOCUMENT TYPE: Patent
LANGUAGE: French
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
FR 2294715	A1	19760716	FR 1974-41714	19741217
FR 2294715	B1	19790601		

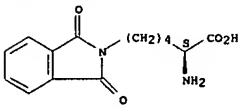
PRIORITY APPLN. INFO.: FR 1974-41714 A 19741217

AB Me(CH2)13CMe2CO-Lys-Lys-OMe (I) was prepared by coupling Nα-formyl-Nε-phthaloyllysine (II) with Nε-phthaloyllysine Et ester, cleaving the formyl from the resulting dipeptide, treating with Me(CH2)13CMeCO2H and cleaving the phthaloyl protective group. II was prepared by treating lysine-HCl with ethoxycarbonylphthalimide and formylating the resulting Nε-phthaloyllysine with HCO2H-Ac2O. Me(CH2)13CMe2CO2H was obtained by chlorinating Me2CHCO2H, Friedel-Crafts reaction of Me2CHCOCl with C6H6, reaction of Me2CHBz with Me(CH2)13Br, aminolysis of Me(CH2)13CMe2Bz, and hydrolysis of Me(CH2)13CMe2CONH2. I was a bactericide with min inhibitory concns. of 6.25 μg/ml against Staphylococcus aureus S108, Diplococcus pneumonia, and Neisseria perflava and 62.5 μg/ml Candida albicans.

IT 50305-52-7P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and formylation of)

RN 50305-52-7 CAPLUS
CN 2H-Isoindole-2-hexanoic acid, α-amino-1,3-dihydro-1,3-dioxo-, (αS)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

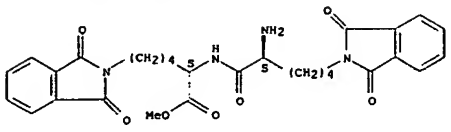


IT 62646-50-8P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and reaction of, with dimethylpalmitic acid)

RN 62646-50-8 CAPLUS
CN L-Norleucine, 6-(1,3-dihydro-1,3-dioxo-2H-isoindol-2-yl)-N-[6-(1,3-dihydro-1,3-dioxo-2H-isoindol-2-yl)-L-norleucyl]-, methyl ester (9CI) (CA INDEX NAME)

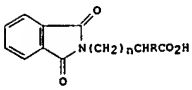
L6 ANSWER 20 OF 36 CAPLUS COPYRIGHT 2006 ACS on STN (Continued)

Absolute stereochemistry.



L6 ANSWER 21 OF 36 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1977:43143 CAPLUS
DOCUMENT NUMBER: 86:43143
TITLE: Synthesis of (S)-4-amino-2-hydroxy-n-butyric acid and its N-phthaloyl derivative
AUTHOR(S): Horiuchi, Yukio; Akita, Eiichi; Ito, Teiichiro
CORPORATE SOURCE: Cent. Res. Lab., Meiji Seika Kaisha Ltd., Yokohama, Japan
SOURCE: Agricultural and Biological Chemistry (1976), 40(8), 1649-50
CODEN: ABCHA6; ISSN: 0002-1369
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 86:43143
GI



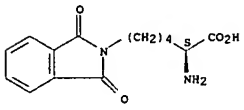
I

AB H2N(CH2)nCH(OH)CO2H (n = 2-4) were prepared by converting H2N(CH2)nCH(NH2)CO2H to their Cu complexes, treating these with N-ethoxycarbonylphthalimide, treating I (R = NH2) with NaNO2-aqueous HOAc and hydrazinolysis of I (R = OH).

IT 53706-02-8P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and reaction of, with sodium nitrite-aqueous acetic acid)

RN 53706-02-8 CAPLUS
CN 2H-Isoindole-2-hexanoic acid, α-amino-1,3-dihydro-1,3-dioxo-, monohydrochloride, (αS)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



● HCl

L6 ANSWER 22 OF 36 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1976:31459 CAPLUS
DOCUMENT NUMBER: 84:31459
TITLE: Selective removal of the tert-butyloxycarbonyl protecting group in the presence of tert-butyl and p-methoxybenzyl esters
AUTHOR(S): Goodacre, Jennifer; Ponsford, Roger J.; Stirling, Irene
CORPORATE SOURCE: Beecham Res. Lab., Betchworth, UK
SOURCE: Tetrahedron Letters (1975), (42), 3609-12
CODEN: TELEAY; ISSN: 0040-4039
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 84:31459

AB Me3C and p-MeOC6H4CH2 esters of Me3CO2C-protected amino acids and peptides underwent selective removal of the Me3CO2C group on treatment in Et2O with p-MeC6H4SO3H (I) in EtOH for 3-24 hr at room temperature P-toluenesulfonates were obtained in 81-95% yield. E.g., treatment of MeCH(NHCO2CMe3)CO2CMe3 with I for 3 hr at room temperature gave 91% MeCH(NHSO2C6H4Me-p)CO2CMe3.

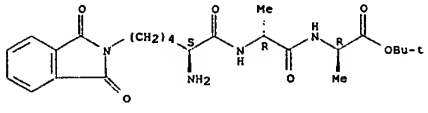
IT 58177-89-2P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

RN 58177-89-2 CAPLUS
CN D-Alanine, N-[N-(6-(1,3-dihydro-1,3-dioxo-2H-isoindol-2-yl)-L-norleucyl]-D-alanyl]-, 1,1-dimethylethyl ester, mono(4-methylbenzenesulfonate) (9CI) (CA INDEX NAME)

CM 1

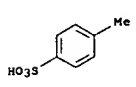
CRN 58177-88-1
CMF C24 H34 N4 O6

Absolute stereochemistry.



CM 2

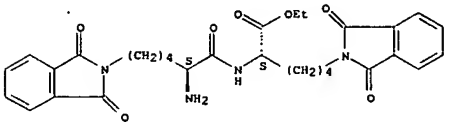
CRN 104-15-4
CMF C7 H8 O3 S



L6 ANSWER 22 OF 36 CAPLUS COPYRIGHT 2006 ACS on STN (Continued)

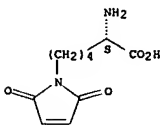
L6 ANSWER 23 OF 36 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1976:31458 CAPLUS
DOCUMENT NUMBER: 84:31458
TITLE: Synthesis and antibiotic activity of lysine-containing oligopeptides
AUTHOR(S): Morier, Elisabeth; Pacheco, Henri; Koeberle, Jean; Yavordios, Dimitri
CORPORATE SOURCE: Serv. Chim. Biol., Inst. Natl. Sci. Appl., Villeurbanne, Fr.
SOURCE: European Journal of Medicinal Chemistry (1975), 10(3), 221-30
CODEN: EJMCA5; ISSN: 0223-5234
DOCUMENT TYPE: Journal
LANGUAGE: French
AB Eight dipeptides of lysine acylated with long chain fatty acids were prepared by the Merrifield method. R-Lys-Lys-OMe (R = 2,2-dimethylpalmitoyl) was bactericidal and biodegradable.
IT 57746-81-3P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
RN 57746-81-3 CAPLUS
CN L-Norleucine, 6-(1,3-dihydro-1,3-dioxo-2H-isoindol-2-yl)-N-[6-(1,3-dihydro-1,3-dioxo-2H-isoindol-2-yl)-L-norleucyl]-, ethyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L6 ANSWER 24 OF 36 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1975:428548 CAPLUS
DOCUMENT NUMBER: 83:28548
TITLE: Preparation and some properties of maleimido acids and maleoyl derivatives of peptides
AUTHOR(S): Keller, Oskar; Rudinger, Josef
CORPORATE SOURCE: Inst. Molekularbiol. Biophys., ETH, Zurich, Switz.
SOURCE: Helvetica Chimica Acta (1975), 58(2), 531-41
CODEN: HCACAV; ISSN: 0018-019X
DOCUMENT TYPE: Journal
LANGUAGE: English
GI For diagram(s), see printed CA Issue.
AB N-alkoxycarbonylmaleimides (I, R = Me, Et, Bu, PhCH2, p-NO2C6H4CH2; II, n = 1, 2, 5; III, n = 3) were prepared in aqueous solution The maleoyl group can be cleaved by mild alkaline and acid hydrolysis or by hydrazinolysis. IV was used in peptide synthesis. Thus, maleimide, and N-methylmorpholine in EtOAc, at 0-3° were treated with ClCO2Me to give I (R = Me) (V). Treatment of V with 1M NaOH to pH 11, acidification with 1M H2SO4 to pH 1-2 and cyclization with NaHCO3 gave III (n = 1, 2, 5).
IT 55750-65-7P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
RN 55750-65-7 CAPLUS
CN 1H-Pyrrole-1-hexanoic acid, α-amino-2,5-dihydro-2,5-dioxo-, monohydrobromide, (S)- (9CI) (CA INDEX NAME)

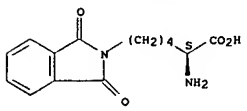
Absolute stereochemistry.



● HBr

L6 ANSWER 25 OF 36 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1974:552618 CAPLUS
DOCUMENT NUMBER: 81:152618
TITLE: Synthesis of analogs of valinomycin and Enniatin B containing charged spin-labeled, or fluorescent groups
AUTHOR(S): Ivanov, V. T.; Sumskaya, L. V.; Mikhaleva, I. I.; Laine, M. A.; Ryabova, I. D.; Ovchinnikov, Yu. A.
CORPORATE SOURCE: Inst. Khim. Prir. Soedin. im. Shemyakina, Moscow, USSR
SOURCE: Khimiya Prirodnykh Soedinenii (1974), (3), 346-58
CODEN: KPSUAR; ISSN: 0023-1150
DOCUMENT TYPE: Journal
LANGUAGE: Russian
AB Cyclo[-D-Val-L-OCHMeCO-Lys(N6-R)-D-OCH(CHMe2)CO-[-D-Val-L-OCHMeCO-Val-D-OCH (CHMe2)-CO-]2-], cyclo[-L-NMeCH(CH2CH2CH2CH2NHR)CO-D-OCH-(CHMe2)CO-[-L-NMeCH(CHMe2)CO-D-OCH(CHMe2) cO-]2-} [R = H, [4-(dimethylamino)-1-naphthalenyl]sulfonyl, (2,2,6,6-tetramethyl-1-oxy-4-piperidinyl)acetyl], cyclo[-D-Val-L-OCHMe-CO-Glu-D-OCH(CHMe2)CO-[-D-Val-L-OCHMeCO-Val-D-OCH-(CHMe2)CO-]2], and cyclo[-L-NMeCH(CH2CH2CO2H) CO-D-OCH(CHMe2)CO-[-L-NMeCH(CHMe2)CO-D-OCH (CHMe2)-CO-]2] were prepared by standard peptide coupling reactions. The antimicrobial activities of these compds. and intermediates in their preparation were determined
IT 50305-52-7
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with benzyloxycarbonyl chloride)
RN 50305-52-7 CAPLUS
CN 2H-Isoindole-2-hexanoic acid, α-amino-1,3-dihydro-1,3-dioxo-, (αS)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

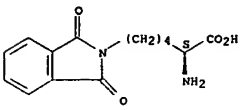


L6 ANSWER 26 OF 36 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1974:520451 CAPLUS
DOCUMENT NUMBER: 81:120451
TITLE: S-α-Hydroxy-ε-N-phthaloylamino acids
INVENTOR(S): Akita, Eiichi; Horiuchi, Yukio; Ito, Teiichiro
PATENT ASSIGNEE(S): Meiji Confectionary Co., Ltd.
SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 49020166	A2	19740222	JP 1972-62445	19720623
PRIORITY APPLN. INFO.:			JP 1972-62445 A	19720623

GI For diagram(s), see printed CA Issue.
AB (S)-α-Hydroxy-ε-phthalimido acids I (n = 2-4) were prepared by treating HCl salts of α-amino acids (II) in aqueous AcOH with NaNO2. II-HCl were prepared by treating L-α,ε-diamino acid Cu salts with N-ethoxycarbonylphthalimide (III) and subsequent decopperization with dilute HCl-MeOH. Thus, 5 g L(+)-2,4-diaminobutyric acid-2HCl in N NaOH wastreated with 3.14 g basic Cu carbonate, clarified, and stirred with 9.34 g III at pH 9. The solid was decopperized with 1:1 4N HCl-MeOH and Et2O to give 67.5% II.HCl (n = 2), which (4.885 g) was dissolved in 120 ml 33% aqueous AcOH, treated with 5.03 g NaNO2 with cooling, and kept 3 days. The mixture was evaporated and concentrated HCl added to give 61.5% I (n = 2). Also prepared were I (n = 3 and 4).
IT 53706-02-8
RL: RCT (Reactant); RACT (Reactant or reagent)
(nitrosation of)
RN 53706-02-8 CAPLUS
CN 2H-Isoindole-2-hexanoic acid, α-amino-1,3-dihydro-1,3-dioxo-, monohydrochloride, (αS)- (9CI) (CA INDEX NAME)

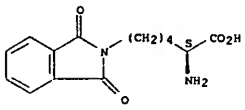
Absolute stereochemistry.



● HCl

L6 ANSWER 27 OF 36 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1974:3788 CAPLUS
DOCUMENT NUMBER: 80:3788
TITLE: Histidine and lysine in the Merrifield synthesis
AUTHOR(S): Schaich, Eugen; Fretzdorff, Anna M.; Schneider, Friedhelm
CORPORATE SOURCE: Physiol.-Chem. Inst. II, Univ. Marburg, Marburg/L., Fed. Rep. Ger.
SOURCE: Hoppe-Seyler's Zeitschrift fuer Physiologische Chemie (1973), 354(8), 897-902
CODEN: HSZPAZ; ISSN: 0018-4888
DOCUMENT TYPE: Journal
LANGUAGE: German
AB The coupling yields of 19 protected histidine derivs. with the model peptide Gly-Gly-Ala-resin were tested. With Adoc-His-(Adoc) (Adoc = adamantyloxycarbonyl), Boc-His(Boc)-ONp (Boc = Me3CO2C, ONp = OC6H4NO2-p), and Boc-His(Z)-ONp (Z = PhCH2O2C), yields of 100% were obtained. The best protecting groups for the ε-amino function of lysine in solid-phase coupling. were p-O2NC6H4CH2O2C and (Me2CH)2CHO2C.
IT 50305-52-7
RL: PRP (Properties)
(solid-phase coupling of, cleavage in)
RN 50305-52-7 CAPLUS
CN 2H-Isoindole-2-hexanoic acid, α-amino-1,3-dihydro-1,3-dioxo-, (αS)- (9CI) (CA INDEX NAME)

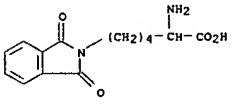
Absolute stereochemistry.



L6 ANSWER 28 OF 36 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1966:75635 CAPLUS
DOCUMENT NUMBER: 64:75635
ORIGINAL REFERENCE NO.: 64:14139c-e
TITLE: Conversion of by-products of caprolactam polymerization to lysine and pipecolinic acid
INVENTOR(S): Losse, Guenter; Schobess, Manfred
SOURCE: 3 pp.
DOCUMENT TYPE: Patent
LANGUAGE: Unavailable
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DD 30710		19651025	DD	19610710
PRIORITY APPLN. INFO.:			DD	19610710

AB Cyclic oligomers of caprolactam were hydrolyzed by heating with concentrated aqueous HCl to give ε-aminohexanoic acid-HCl (I.HCl) which was used to prepare lysine di-HCl (II) and picolinic acid-HCl (III). A mixture of oligomers and concentrated aqueous HCl was kept at 180° for 1-1.5 hrs. to give I.HCl, m. 127°. I was acylated, the acylation product halogenated, the halogen compound aminated, and the amino compound deacylated to give II, m. 187-9°, and III, m. 258-62°. The following intermediates, analogs of I, were prepared (substituents, % yield, and m.p. given): α-benzoylamino, 95, 77° (petroleum ether); ε-p-nitrobenzoylamino, 90, 148° (H2O); ε-phthaloylamino, 91, 108° (1:2 alc.-H2O); α-bromo-ε-benzoylamino, 80, 160-3° (alc.-H2O); α-chloro-ε-benzoylamino, 90, 114-20°; α-bromo-ε-phthaloylamino, 70-80, 151-3°; α-chloro-ε-p-nitrobenzoylamino, 90, 220-5° (no m.p. given for the corresponding α-bromo compound). ε-Benzoyllysine (77% yield) m. 265-70°; ε-nitrobenzoyllysine (70% yield) m. 223-30°; ε-phthaloyllysine (70% yield) m. 227-31°.
IT 4403-38-7, 2-Isoindolinehexanoic acid, α-amino-1,3-dioxo-
(preparation of)
RN 4403-38-7 CAPLUS
CN 2H-Isoindole-2-hexanoic acid, α-amino-1,3-dihydro-1,3-dioxo- (9CI) (CA INDEX NAME)



L6 ANSWER 29 OF 36 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1964:440687 CAPLUS
DOCUMENT NUMBER: 61:40687
ORIGINAL REFERENCE NO.: 61:7097e-h,7098a-f
TITLE: Peptides
PATENT ASSIGNEE(S): CIBA Ltd.
SOURCE: 38 pp.
DOCUMENT TYPE: Patent
LANGUAGE: Unavailable
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

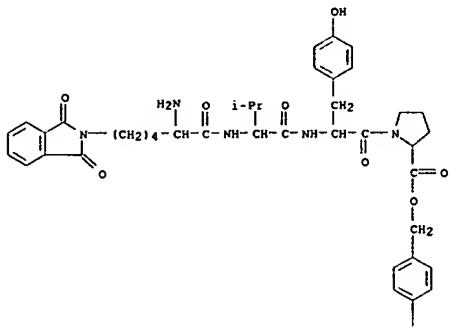
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
FR 1343587		19631122	FR	
DE 1212980			DE	
GB 1014426			GB	
US 3247178		1966	US	
PRIORITY APPLN. INFO.:			CH	19610913

AB Peptides were prepared from amino acids by condensation, protecting the ε-NH2 groups with phthalyl and the α-NH2 groups with tert-butyloxycarbonyl (BOC) radicals. The phthalyl radical was removed with hydrazide acetate at pH 6.5; the BOC radical with strong acids at pH <4. The CO2H group was protected as usual by the p-phenylazobenzyl (PAB) radical. Thus, 22 g. dicyclohexylcarbodiimide (I) was added to 20.9 g. BOC-L-proline and 22.7 g. phenylazobenzyl alc. in 200 cc. C5H5N at 0° and kept 12 hrs. A few cc. HOAc was added to the mixture at 0° and the mixture filtered. II was removed from the filtrate and the residue dissolved in AcOEt and treated with 0.5N HCl and NaHCO3 to give 40 g. red oil. The oil was dissolved in 100 cc. absolute AcOEt and 500 cc. 3N HCl and AcOEt added. The mixture was kept 0.5 hr. and evaporated in vacuo and the residue dissolved in 500 cc. CHCl3 and filtered through a silica gel column. The column was eluted with CHCl3 in order to sep. an impurity and with CHCl3 containing 10% MeOH in order to obtain 77% Pro-OPAB.HCl (III), m. 180° (absolute EtOH). III (1.39 g.) in 10 cc. H2O was covered with AcOEt and treated with K2CO3 at 0°. The AcOEt extract was washed to neutrality and the solvent removed in vacuo at 40°. The residue was mixed with 1.13 g. BOC-TyrOH in 20 cc. MeCN, 1 cc. HCONMe2, and 0.91 g. I, kept at 0° during the night, filtered, and processed in a similar manner as above in order to give Tyr-Pro-OPAB.HCl (IV), m. 204° (decomposition) (mixture of MeOH and Et2O), in a yield of 82%. Isobutyl chlorocarbonate (5 cc.) was added to 9 g. BOC-Val-OH in 90 cc. absolute tetrahydrofuran (V) and 5.7 cc. NEt3 at -10 to -15°. The mixture was kept for 15-20 min., 17.25 g. IV in 120 cc. absolute HCONMe2 and 4.7 cc. NEt3 in 45 cc. absolute V added dropwise, and the mixture stirred 1 hr., kept 12 hrs. at 0°, concentrated, and dissolved in AcOEt. The solution was extracted with 0.5N HCl at 0° and neutralized by NaHCO3 in order to give BOC-Val-Tyr- Pro-OPAB (VI), m. 106-8°, in a yield of 88%. VI (17 g.) was dissolved in 50 cc. CCl3O2H, kept 5 min., and evaporated in vacuo. The oily residue was dissolved in CHCl3, washed with water, and neutralized with saturated NaHCO3. The CHCl3 layer was dried with Na2SO4 and evaporated to yield 100% Val-Tyr-Pro-OPAB (VII). In a similar manner as VI and VII were prepared BOC-Lys(phthalyl)-Val-Tyr-Pro-OPAB in a

L6 ANSWER 29 OF 36 CAPLUS COPYRIGHT 2006 ACS on STN (Continued)
yield of 87% and Lys(phthalyl)Val-Tyr-Pro-OPAB (VIII) in a yield of 100% from 7.4 g. BOC-Lys(phthalyl)OH and 6.43 g. VII;
BOC-Val-Lys(phthalyl)Val-
Tyr-Pro-OPAB and Val-Lys(phthalyl)-Val-Tyr-Pro-OPAB (IX) in yields of 88 and 10% from 3.5 g. BOC-Val-OH and 8.1g. VIII; BOC-Pro-Val-Lys(phthalyl)-Val-Tyr-Pro-OPAB and Pro-Val-Lys(phthalyl)-Val-Tyr-Pro-OPAB (X) in yields of 91 and 100% from 3.3 g. BOC-Pro-OH and 8.2 g. IX;
BOC-Arg(NO2)-Pro-Val-
Lys(phthalyl)-Val-Tyr-Pro-OPAB and Arg(NO2)Pro-Val-Lys(phthalyl)-Val-Tyr-Pro-OPAB (XI) in yields of 83 and 76% from 893 mg. BOC-Arg(NO3)-OH and 2.05 g. X; BOC-Arg(NO2)-Arg(NO2)-Pro-Val-Lys(phthalyl)-Val-Tyr-Pro-OPAB and Arg(NO2)-Arg(NO2)-Pro-Val-Lys(phthalyl)-Val-Tyr-Pro-OPAB (XII) in yields of 87 and 100% from 910 mg. BOC-Arg(NO2)-OH and 2.14 g. XI; and BOC-Lys(phthalyl)-Arg(NO2)Arg(NO2)-Pro-Val-Lys(phthalyl)-Val-Tyr-Pro-OPAB and Lys(phthalyl)-Arg(NO2)-Arg(NO2)-Pro-Val-Lys(phthalyl)-Val-TyrPro-OPAB in yields of 92 and 100% from 1.29 g. BOC-Lys(phthalyl)-OH and 3.1 g. XII. In another example 17.6 g. BOC-L-lysine obtained by hydrogenation from 41 g. BOC-carbobenzoxylysine (Anderson and McGregor, CA 52, 6186a) was dissolved in 70 cc. H2O and treated by 7.6 g. anhyd. Na2CO3, 19.7 g. N-carbethoxyphthalimide added, and the mixt. stirred 30 min. The soln. was filtered, chilled to 0°, adjusted with 2N HCl to pH 2, and extd. with AcOEt. The AcOEt ext. was extd. with 120 cc. satd. NaHCO3, acidified with 2N HCl, and extd. with AcOEt to give BOC-Lys(phthalyl)-OH (XIII) in 99% yield. I.(30.7 g.) was added to 50.9 g. XIII and 43.2 pentachlorophenol in 160 cc. abs. AcOEt, kept 12 hrs. at 0°, and filtered, and the filtrate evapd. to give the XIII pentachlorophenyl ester, m. 140-2°, (EtOH) in a yield of 68°. A mixt. of 1.06 g. Arg-Arg-Pro-Val-Lys(phthalyl)-Val-Tyr-Pro-OPAB.3AcOH, 850 mg. XIII pentachlorophenyl ester, 2.5 cc. HCONMe2, and 0.094 cc. NEt3, was stirred 17 hrs. and treated with CHCl3 to give BOC-Lys(phthalyl)-Arg-Arg-Pro-Val-Lys(phthalyl)-Val-Tyr-Pro-OPAB.2AcOH in a yield of 98%. In another example 25.1 g. carbobenzoxyvaline-OH (Synge, CA 43, 4641c) in 200 cc. abs. V was treated with 13.8 cc. NEt3, 13.25 cc. isobutyl chloroformate added dropwise to the mixt., dry NH3 introduced at -10°, and the mixt. kept 15 hrs. at 0° to give carbobenzoxy-valine-NH2 (XIV), m. 205-6° (EtOH), in almost quant. yield. XIV (20.3 g.) hydrogenated in AcOH gave 13.4 g. valine-NH2 AcOH, m. 102° (EtOH). A mixt. of 13.6 g. BOC-proline-OH, 8.75 cc. NEt3, and 8.4 g. isobutyl chloroformate was kept 30 min. at -10°, 11.15 g. valine-NH2.AcOH in 50 cc. abs. V and 30 cc. HCO2NMe2 added dropwise, and the mixt. kept 1 hr. at -5° and 15 hrs. at 0° and processed as usual to give 7.73 g. BOC-Pro-Val-NH2 (XV), m. 85° (decompn.). XV (7.73 g.) in 25 cc. CF3CO2H was evapd. in vacuo to give 7.5 g. Pro-Val-NH2.CF3CO2H (XVI), m. 167-8° (EtOH, Et2O) (decompn.). XVI (7 g.) in 50% MeOH passed through Amberlite IRA-400 gave 5.66 g. Pro-Val-NH2 AcOH (XVII), m. 137-8°. Similarly to XV was obtained in a 65% yield BOC-Lys(phthalyl)-Pro-Val-NH2 (XVIII), m. 172.5-73°, from 5.26 g. XIII and 2.73 XVII. XVIII (1 g.) in 10 g. AcOEt, was chilled rapidly and treated by 6 cc. 2.9N HCl in AcOEt to give in a 80% yield XVIII.HCl.BOC-Ser-Tyr-Ser-Met-Glu(O-tert-butyl)-His-Phe-Arg-Try-Gly-Lys(phthalyl)- ProVal-NH2;, a gelatinous compd. was obtained by stirring for 5 days a mixt. of 5 cc. II, 504 mg.
BOC-Ser-Tyr-Ser-Met-Glu(O-
tert-butyl)-His-Phe-Arg-Try-Gly-OH, and 145 mg. I. H-Ser-Tyr-Ser-Met-Glu-His-Phe-Arg-Try-Gly-Lys(phthalyl)-Pro-Val-NH2.3CF3CO3H was acetylated in the α-NH2 group of serine and converted in the Ac deriv. in the usual manner. In an example showing the elimination of the phthalyl groups, 465 mg. BOC-Lys(phthalyl)-Val-Tyr-Pro-OPAB in MeOH was treated at 50° with 5 cc. 2M NH2NH2.H2O and adjusted with 2N AcOH to pH 6.5 in order to obtain BOC-Lys-Val-Tyr-Pro-OPAB.

L6 ANSWER 29 OF 36 CAPLUS COPYRIGHT 2006 ACS on STN (Continued)
IT 106979-41-3, Proline, 1-[N-[N-(6-phthalimidonorleucyl)valyl]tyrosyl]-, p-(phenylazo)benzyl ester
(preparation of)
RN 106979-41-3 CAPLUS
CN Proline, 1-[N-[N-(6-phthalimidonorleucyl)valyl]tyrosyl]-, p-(phenylazo)benzyl ester (7CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A

L6 ANSWER 30 OF 36 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER:	1964:17227 CAPLUS
DOCUMENT NUMBER:	60:17227
ORIGINAL REFERENCE NO.:	60:3094e-h,3095a-g,3096a-g
TITLE:	Peptides
PATENT ASSIGNEE(S):	F. Hoffmann-La Roche & Co., A.-G.
SOURCE:	46 pp.
DOCUMENT TYPE:	Patent
LANGUAGE:	Unavailable

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
BE 618417		19621203	BE	
DE 1184770			DE	
DE 1226745			DE	
FR 1327363			FR	
GB 1000896			GB	
GB 1000897			GB	
GB 1000899			GB	
GB 1000900			GB	
US 3265682		1966	US	
PRIORITY APPLN. INFO.:			CH	19610601

AB Various peptides with antibacterial activity and a very low toxicity have been synthesized. The following abbreviations have been used in the description of their preparation: Cbo = carbobenzoxy; palm = palmitoyl; DMF =
Me2NHCO; dab = α,γ-diaminobutyl. Thus, 100 g. Nα-palm(Nε-Cbo)-L-Lys-OH and 57 g. H(Nε-Cbo)-L-Lys-OMe was dissolved in 250 cc. DMF. The solution was cooled to -10° and left 16 hrs. at 0° after addition of 408 g. dicyclohexylcarbodiimide; 50 cc. DMF was added, the mixture was heated to 50°, cooled to 20° and filtered. The filtrate was poured into 4 l. 5% NaCl, left 1 hr., filtered, the precipitate washed and dried in vacuo at 70° and crystallized in EtOAc and petr. ether to give Nα-palm(Nε-Cbo)-L-Lys-(Nε-Cbo)-L-Lys-OMe (I), m. 123-5°, [α]20D 8.4° (c 2, DMF). I (50 g.) was dissolved in 50 cc. warm glacial HOAc and the solution was stirred 1.5 hrs. at 20° with 150 cc. 33% HBr in HOAc. After elimination of the gas formed, the mixture was diluted with
150 cc. H2O and extracted twice with Et2O. The aqueous layer was alkalinized with
NH3, extracted with EtOAc, the exts. were dried, evaporated, the residue was
dissolved in 20 cc. MeOH, acidified to pH 7 with 4N HCl in MeOH, evaporated
and crystallized in Me2CO to give Nα-palm-L-Lys-L-Lys-OMe.2HCl, m. 210-12° (decomposition), [α]20D -17° (c 2, H2O). I (26 g.) was dissolved in 1 l. MeOH and treated 16 hrs. at 20° with 50 cc. 2N NaOH. The solution was filtered, evaporated to 100 cc. and poured into 1 l.
0.01N HCl, filtered, the precipitate washed with H2O, dried, and crystallized in
EtOAc-petr. ether to give Nα-palm-(Nε-Cbo)-L-Lys-(Nε-Cbo)-L-Lys-OH (II), m. 129-31°. II (16 g.) in 300 cc. glacial HOAc and 30 cc. H2O was hydrogenated after addition of 1 g. Pd-C. The mixture was
filtered, evaporated, the residue dissolved twice in MeOH, evaporated, dissolved
in H2O, acidified to pH 7 with 1N HCl, and precipitated with Me2CO to give

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Nα-palm-L-Lys-L-Lys-OH.HCl, m. 180° (decompn.), [α]20D -4° (c 2, H2O). I (20 g.) in 800 cc. MeOH was satd. at 25° with gaseous NH3 and left 48 hrs. at 25°, filtered, the ppt. washed with H2O, dried, and crystd. in DMF and H2O to give Nα-palm-(Nε-Cbo)-L-Lys-(Nε-Cbo)-L-Lys-NH2 (III), m. 174-6°, [α]20D -8.2° (c 2, DMF). III (17 g.) in 300 cc. HOAc and 30 cc. H2O was hydrogenated after addn. of 1.7 g. Pd-C. The mixt. was filtered, the filtrate evapd. and dissolved twice in a small amount H2O, acidified to pH 7 with 3N HCl, and the soln. pptd. with Me2CO to give Nα-palm-L-Lys-L-Lys-NH2.2HCl, m. 232-3° (decompn.), [α]20D -11° (c 2, H2O). I (26 g.) in 400 cc. MeOH was treated with 26 cc. N2H4.H2O (100%), heated 15 min. on a steam bath, mixed
with 800 cc. H2O after 24 hrs., filtered, the ppt. washed with H2O, dried,
and crystd. in DMF-EtOH to give Nα-palm-Nε-Cbo-L-Lys-(Nε-Cbo)-L-Lys-NHNH2 (IV), m. 190-1°, [α]20D -10.8° (c 1, DMF). IV (22 g.) in 100 cc. glacial HOAc was stirred 1.5 hrs. with 33% HBr in HOAc. Et2O was added, the ppt. filtered and washed with Et2O, and crystd. in EtOH-Et2O to give Nα-palm-L-Lys-L-Lys-NHNH2.3HBr, [α]20D -14.8° (c 1, H2O).
Nα-Cbo-L-nitroarg-OH (35.3 g.) was dissolved in 400 cc. tetrahydrofuran and stirred at -10° with 16.2 g. carbonyldiimidazole. After 40 min. a soln. of H-L-nitroarg-OEt in 150 cc.
DMF was added and stirred 4 hrs. at 0°. The soln. was evapd., 1N HCl added to the residue, the oil formed treated with H2O, and crystd. in EtOH-H2O to give Nα-Cbo-L-nitroarg-L-nitroarg-OEt (V), m. 123-5°, [α]21D -7.8° (c 1.0, EtOH). V (14.6 g.) was
treated 1 hr. with 50 cc. 25% HBr in HOAc. The salt was pptd. with Et2O, washed with Et2O and with abs. EtOH, treated in abs. EtOH with Et3N, evapd., and the residue dissolved in 150 cc. abs. C5H5N. Et3N (4 cc.) and
7.2 g. palmitoyl chloride was added at -10 to -15°, the mixt. left 30 min. at 0°, the solvent evapd., the residue dissolved in EtOAc and in 3N HCl, washed with a satd. NaCl soln., and dried and evapd. to give after crystn. in EtOH-Et2O Nα-palm-L-nitroarg-L-nitroarg-OEt, m. 169-73°, which was dissolved in 50 parts glacial HOAc and hydrogenated 24 hrs. at 25° after addn. of 10% H2O and 5% Pd-C. The mixt. was filtered, the filtrate evapd. and the residue crystd. in MeOH-EtOH to give Nα-palm-L-arg-L-arg-OEt.2HCl, m. 225-30°, [α]21D -13.7° (c 2, EtOH). Nα-Formyl-(Nε-Cbo)-L-Lys-OH (26.3 g.) was dissolved in 150 cc. abs. tetrahydrofuran (THF) and
13.8 g. carbonyldiimidazole was added at -10°. After 30 min. a soln. of H-(Nε-Cbo)-L-Lys-OMe in 50 cc. THF was added and the mixt. stirred 4 hrs. at 25°, evapd., the residue dissolved in EtOAc and washed with 1M tartaric acid, ice-H2O, 10% KHCO3, and satd. NaCl soln., the org. soln. dried, evapd. and the residue crystd. in Me2COEt2O to give Nα-formyl-(Nε-Cbo)-L-Lys-(Nε-Cbo)-L-Lys-OMe(VI), m. 147-9°, [α]22D -16.9° (c 1.0, MeOH). VI (29 g.) was stirred 5 hrs. in 100 cc. 2N HCl in MeOH and 70 cc. MeOH. The soln. was evapd., the residue dissolved in Et2O, the soln. evapd. twice in
presence of 100 cc. PhMe, the residue dissolved in 300 cc. THF and 10 cc. Et3N at 0°. The mixt. was filtered, 10 cc. Et3N and 50 millimoles fatty acid chloride were added at -10°. The mixt. was stirred 20 min. at 0°, concd. and dissolved in EtOAc and HCl, the soln. washed with HCl, H2O and a satd. NaCl soln., dried to give the corresponding

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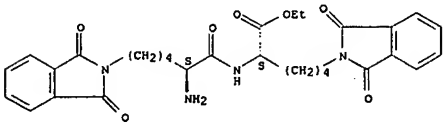
deriv. of fatty acid. Dipeptidic esters of tridecanoyl, myristoyl, pentadecanoyl, margaroyl, arachidoyl, and phytanoyl chloride are described. Nα-Palm-(Nε-Cbo)-L-Lys-(Nε-Cbo)-L-Lys-(Nε-Cbo)-L-Lys-OMe m. 148-50°, was prepd. with dicyclohexylcarbodiimide; Nα-palm-(Nε-Cbo)-L-Lys-(Nε-Cbo)-L-Lys(Nε-Cbo)-L-Lys-NHNH2, with N2H4.H2O, m. 192-4°, [α]20D -9° (c 1, DMF); Nα-palm-L-Lys-L-Lys-L-Lys-NHNH2.4HBr, [α]20D -18.5° (c 1, H2O), with HBr and HOAc; Nα formyl-(Nγ-Cbo)-D-Dab-(Nγ-palm)-L-Dab-OMe, m. 164-6°, with dicyclohexylcarbodiimide; Nα-formyl-(Nγ-Cbo)-D-Dab-(Nγ-palm)-L-Dab-NHNH2, m. 204-6°, with N2H4.H2O; H-D-Dab-(Nγ-palm)-L-Dab-NHNH2.2HBr, m. 215-18°, with HBr and HOAc. H-(Nγ-Palm)-L-Dab-OMe.HCl (8.4 g.) was dissolved in 80 cc. DMF, and the soln. stirred 15 min. with 3.2 cc. Et3N and filtered. Nα-Cbo-(Nγ-Cbo)-D-Dab-(Nγ-Cbo)-D-Dab-OH (13. g.) was added to the filtrate, the mixt. cooled to 0°, and 4.3 g. dicyclohexylcarbodiimide added. The mixt. was kept 24 hrs. and filtered, and 20 g. NaCl in 1 l. 0.1N HCl added to the filtrate. The mixt. was filtered and the Nα-Cbo(Nγ-Cbo)-D-Dab-(Nγ-Cbo)-D-Dab-(Nγ-palm)-L-Dab-OMe (VII), m. 178-80°, was then pptd. from the filtrate by addn. of NaCl with DMF and 0.1N NH3. VII (14 g.) was dissolved in 100 cc. warm DMF and 14 cc. N2H4.H2O, left 24 hrs. at 20°, and then mixed with 200 cc. EtOH. The mixt. was filtered and the ppt. washed with EtOH and dried to give Nα-Cbo-(Nγ-Cbo)-D-Dab-(Nγ-Cbo)-D-Dab-(Nγ-palm)-L-Dab-NHNH2 (VIII), m. 222-4°. HBr (33%) (75 cc.) in HOAc was added to 10 g. VIII. The mixt. was stirred 2 hrs. and mixed with 300 cc. Et2O, the ppt. formed sepd., washed with Et2O, and crystd. in MeOH-Et2O to give H-D-Dab-D-Dab-(Nγ-Palm)-L-Dab-NHNH2.3HBr, [α]20D -7.8° (c 1, H2O). Nα-Formyl-(Nγ-Cbo)-L-Dab-(Nγ-Cbo)-D-Dab-NHNH2 (9.1 g.) was dissolved at 0° in 100 cc. glacial HOAc, 50 cc. H2O, 100 cc. EtOAc, and 12.7 cc. 3N HCl. NaNO2 (1.32 g.) in 15 cc. H2O was added slowly at -10°. The mixt. was extd. after 15 min. at 0° with EtOAc and the ext. washed, dried and treated with 11 g. H-(Nγ-Cbo)-D-Dab-(Nγ-Palm)-L-Dab-OMe in 65 cc. DMF, the mixt. left 20 hrs. at 0° and 6 hrs. at 20°, concd. in vacuo at 45° and pptd. with 400 cc. Et2O to give Nα-formyl-(Nγ-Cbo)-L-Dab-(Nγ-Cbo)-D-Dab-(Nγ-Cbo)-D-Dab-(Nγ-palm)-L-Dab-OMe (IX), m. 222-4°, which was filtered from the soln., washed with Et2O, and dried at 60° in vacuo. IX (11 g.) was dissolved in 90 cc. warm DMF and 11 cc. N2H4.H2O, left 20 hrs., mixed with 200 cc. H2O. The mixt. was filtered and the filtrate washed with H2O and dried at 80° in vacuo to give Nα-formyl-(Nγ-Cbo)-L-Dab-(Nγ-Cbo)-D-Dab-(Nγ-Cbo)-D-Dab-(Nγ-palm)-L-Dab-NHNH2 (X), m. 240-2°. HBr (33%) (80 cc.) in glacial HOAc was added to 8 g. X. The mixt. was stirred 2 hrs., treated with 300 cc. dried Et2O, filtered, the ppt. dissolved several times in Et2O, then in 80 cc. H2O, the Et2O removed, and the soln. left 2 hrs. at 20° and lyophilized, the residue pptd. with MeOH and Et2O, the ppt. dissolved in MeOH, the soln. neutralized with C5H5N and pptd. with EtOH, the ppt. dried and dissolved in 50 cc. H2O, and the soln. lyophilized to give the tetrahydrobromide salt, m. 245-50°. H-(Nε-phthaloyl)-L-Lys-OEt.HCl (28 g.) was dissolved in 150 cc. DMF and 12 cc. Et3N was added to the soln. After filtration of the mixt., 35 g. Nα-(10-undecenoyl)-(Nε-phthaloyl)-L-Lys-OH was added to the filtrate, the soln. cooled to 0 to -5°, and 17.5 g. dicyclohexylcarbodiimide in 60 cc. DMF added to it. The mixt. was left 24 hrs. in the cold and filtered, ice H2O added to the filtrate, the pptd. dipeptide dissolved in EtOAc and the soln. washed

L6 ANSWER 30 OF 36 CAPLUS COPYRIGHT 2006 ACS on STN (Continued)



● HBr

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and crystd. by addn. of EtOH and H2O to give Nα-(10-undecenoyl)-(Nε-phthaloyl)-L-Lys-(Nε-phthaloyl)-L-Lys-OEt (XII), m. 130-2°, [α]21D -7.4° (c 2.54, MeOH). XII (7.3 g.) in 100 cc. EtOH and 3 cc. H2O was refluxed 1 hr. and 1 g. N2H4.H2O added. Concd. HCl (2 cc.) was added after a while, the mixt. stirred and filtered, and the soln. concd. to give after addn. of Me2CO and petr. ether Nα-(10-undecenoyl)-L-Lys-L-Lys-OEt.2HCl, m. 241-3°, [α]22D -31° (c 1.6, H2O). Carbonyldiimidazole (8.6 g.) was added at 2° to 35.4 g. Nα-Nγ-Di-Cbo-L-Lys-(Nε-Cbo)-L-Lys-OH) in 150 cc. THF. After 30 min., 12.7 g. cetylamine was added and the mixt. left at 25° to ppt. The ppt. was sepd. and washed to give 25.0 g. Nα-Nγ-di-Cbo-L-Lys-(Nε-Cbo)L-Lys-cetylamide (XII), m. 147-52°, [α]21D -6.3° (c 2, DMF). XII (28 g.) was treated 2 hrs. with 50 cc. 33% HBr in glacial HOAc. The soln. was pptd. with Et2O, evapd. with 50 cc. MeOH, and the residue dissolved in H2O and poured on 80 g. Amberlite IRA-410. and eluted with H2O. HCl (3N) (30 cc.) was added to the eluate, the soln. concd. at 50° to 40 cc., and pptd. with MeCO2 to give H-L-Lys-L-Lys-cetylamide.3HCl, m. 230-50° (decompn.), [α]22D 6.6° (c 2.0, MeOH). Et3N (4.4 cc.) was added to 10.5 g. Nε-phthaloyl-L-Lys-OEt in 70 cc. DMF, the mixt. filtered, the filtrate added to 12.6 g. Nα-Cbo-(Nε-phthaloyl)-L-Lys-OH in 150 cc. THF with 6.4 g. dicyclohexylcarbodiimide, the mixt. left 16 hrs. at 2 4° and filtered, the filtrate evapd., the residue dissolved in EtOAc and 1N HCl, the soln. filtered, and the filtrate washed, dried, and concd. to give after crystn. in EtOAc-petr. ether Nα-Cbo-(Nε-phthaloyl)-L-Lys-(Nε-phthaloyl)-L-Lys-OEt, m. 116-21°, [α]21D -11.8° (c 0.5, EtOH), which was then treated with HBr in HOAc as before to give the free HBr deriv., m. 230-5°, 19.9 g. of which in 35 cc. CHCl3 was treated with 3 cc. Et3N. THF (100 cc.) was added at 20° to the mixt. which was then filtered and 3 more cc. Et3N added, followed by 5.6 g. oleic acid chloride at -30°. The mixt. was left 0.5 hr. at 0° and concd., the residue dissolved in glacial HOAc and 1N HCl, the mixt. sepd., and the soln. washed with warm H2O and NaCl soln., dried, evapd., and crystd. in EtOAc-petr. ether to give the oleyl deriv., m. 118-25°, [α]23D -9.7° (c 1, EtOH), 9.7 g. of which was dissolved in 100 cc. EtOH, refluxed 1 hr. after addn. of 3.5 cc. 6.72N N2H4.H2O, cooled, left at 25° after addn. of 8.0 cc. 3.2N HCl in EtOH, and filtered, and the filtrate was concd., crystd. in EtOH-Et2O to give 3.3 g. Nα-oleyl-L-Lys-L-Lys-OEt.2HCl, decompn. >230°, [α]23D -17.7° (c 1, EtOH). The starting materials have been prepd. according to standard methods described in the literature.

IT **103665-46-9**, 2-Isoindolinehexanoic acid, α-(2-amino-6-phthalimidohexanamido)-1,3-dioxo-, ethyl ester, hydrobromide (preparation of)

RN 103665-46-9 CAPLUS

CN 2-Isoindolinehexanoic acid, α-(2-amino-6-phthalimidohexanamido)-1,3-dioxo-, ethyl ester, hydrobromide (7CI) (CA INDEX NAME)

Absolute stereochemistry.

L6 ANSWER 31 OF 36 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1963:53697 CAPLUS
DOCUMENT NUMBER: 58:53697
ORIGINAL REFERENCE NO.: 58:9221h,9222a-d
TITLE: Synthesis of DL-lysine from 1,1,1,5-tetrachloropentane
AUTHOR(S): Saotome, Kazuo; Kodaira, Yasuto
CORPORATE SOURCE: Asahi Chem. Ind. Co., Ltd., Tokyo
SOURCE: Bulletin of the Chemical Society of Japan (1962), 35, 2010-12
CODEN: BCSJA8; ISSN: 0009-2673
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable

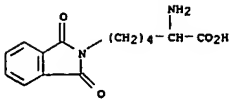
AB DL-Lysine (I) was prepared in a 7-step procedure from Cl(CH2)4-CCl3 (II). II treated with Friedel-Crafts calaysts until the evolution of HCl ceased, and the mixture washed with H2O and distilled yielded Cl(CH2)3CH:CCl2 (III), b4 48-50°, n20D 1.4892 (g. II, catalyst, g. catalyst used, reaction temperature, reaction time in hrs., and g. III and unreacted II obtained are given): 126, ZnCl2, 3.0, 120°, 4, 26.0, 69.0; 126, AlCl3, 2.0, 60°, 2, 85.0, 8.0; 126, SnCl4, 3.0, 130°, 3, 37.5, 76.0; 210, FeCl3, 3.0, 55°, 3, 148.0, 10.0; 420, FeCl3, 8 (used in two 3- and one 2-g. portion), 55°, 3, 318.0, --. III (174 g.) added during 1 hr. with stirring to 82 g. KCN in 500 cc. HCONMe2 at 115°, heated 2 hrs. at 115°, filtered, and evaporated, and the residue distilled gave 142 g. CCl2:CH(CH2)3CN (IV), b5 99-101°, n20D 1.4818. IV in EtOH containing NH3 hydrogenated over Raney Co or Ni at 80° gave H2N(CH2)4CH:CCl2 (V), b5 77-80°, n20D 1.4860 (g. IV, catalyst, g. catalyst, cc. EtOH, and g. NH3 used, H pressure in atmospheric, reaction time in hrs., and g. V obtained are given): 33.0, Co, 3.0, 100, 12.5, 80, 6, 16.5; 33.0, Co, 3.0, 100, -- (saturated), 85, 5, 17.4; 33.0, Co, 6.0, 200, 16.0, 80, 3, 19.0; 33.0, Co, 6.0, 100, -- (saturated), 80, 400, 19.8; 33.0, Ni, 3.0, 100, 10.0, 80, 3, 7.8. V (16.4 g.) and 29 g. phthalic anhydride heated 4 hrs. under N at 145-50°, the mixture treated with 120 cc. 5% aqueous NaOH, and filtered yielded 27.4 g. 1,1-dichloro-6-phthalimido-1-hexene (VI), m. 56° (EtOH). VI (15 g.) added slowly to 70 cc. 96% H2SO4 with cooling, the mixture treated with stirring at 5° with gaseous Cl during 3 hrs., poured into iced H2O, and filtered gave 14.1 g. 2-chloro-6-phthalimidocaproic acid (VII), m. 124-5° (C6H6). VII (10 g.), 15 g. (NH4)2CO3, and 100 cc. 28% NH4OH heated 8 hrs. at 60-5°, the mixture concentrated to about 30 cc., refluxed 12 hrs. with 80 cc. 20% HCl, filtered, and evaporated, and the residue in 200 cc. H2O passed through Amberlite IR-4B, the eluant concentrated, cooled, and diluted with Me2CO precipitated 3.3 g. I.HCl.

IT **4403-38-7**, 2-Isoindolinehexanoic acid, α-amino-1,3-dioxo- (preparation of)

RN 4403-38-7 CAPLUS

CN 2H-Isoindole-2-hexanoic acid, α-amino-1,3-dihydro-1,3-dioxo- (9CI) (CA INDEX NAME)

L6 ANSWER 31 OF 36 CAPLUS COPYRIGHT 2006 ACS on STN (Continued)



L6 ANSWER 32 OF 36 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1962:448789 CAPLUS
DOCUMENT NUMBER: 57:48789
ORIGINAL REFERENCE NO.: 57:9650c-i,9651a-c
TITLE: Synthesis of α-chlorocarboxylic acids by chlorinating compounds containing the CCl2:CH group in acid medium
AUTHOR(S): Nesmeyanov, A. N.; Friedlina, R. Kh.; Kost, V. N.; Vasil'eva, T. T.; Kopylova, B. V.
CORPORATE SOURCE: Acad. Sci. U.S.S.R., Moscow
SOURCE: Tetrahedron (1962), 17, 69-77
CODEN: TETRAB; ISSN: 0040-4020
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable

AB cf. CA 51, 4263d. Conjugated addition of Cl to dichlorovinyl compds., R(CH2)nCH:CCl2 (I) in acid medium gave the corresponding α-chlorocarboxylic acids, R(CH2)nCHClCO2H (II) along with the trichloro compds., R(CH2)nCHClCCl3 (III). The formation of III seemed to be favored by the presence of HCl and for successful production of II the use of Hg(OAc)2 to bind HCl or of anhydrous acids to drive out HCl was necessary. I (R = Cl, n = 3) (90 g.) stirred in 130 g. 93% H2SO4 at 15-20° with passage of Cl until evolution of HCl ceased, the mixture diluted with H2O and extracted with CHCl3, the acidic products extracted with 10% NaOH, and the alkaline extract acidified yielded 78% II (R = Cl, n = 3) (IV), b1.0 106-7°, n20D 1.4825, d20 1.3421, MR 36.37; acid chloride b5 80°, n20D 1.4840, d20 1.3513, MR 40.12; anilide m. 58-9° (petr. ether-C6H6). The neutral products, b1.0 60-75°, fractionated gave 4 g. starting material and 8% III (R = Cl, n = 3) (V), b2 86-7°, n20D 1.5100, d20 1.4806, MR 49.39. Chlorination in HCl, 70% HClO4, AcOH-Hg(OAc)2, anhydrous HCO2H similarly gave --, 36, 62, 69% IV and 81, --, 36, 23% V, resp. Chlorination in H2SO4 (d. 1.8) was recommended whenever the compds. RCH:CCl2 (VI) were inert to this medium as shown by the tabulated data (R and % yield of RCHClCO2H given): Me(CH2)2, 71; Me(CH2)4, 51; ClCH2, 66; Cl(CH2)3, 78; Cl(CH2)5, 70; CCl3(CH2)2, 52; HO2C(CH2)3, 77; HO2C(CH2)4, 73; HO2C(CH2)5, 69; C6H4(CO)2N(CH2)3, 92; C6H4(CO)2N(CH2)4, 84; p-ClC6H4CH2, 83. Otherwise the chlorination of I (R = Ph, AcO, CO2H, MeO, CN) was carried out in AcOH-Hg(OAc)2 or anhydrous HCO2H. I (R = CN, n = 3) (32.8 g.) and 63.6 g. Hg(OAc)2 in AcOH stirred at 50° with passage of Cl till the decoloration was no longer observed and the filtered solution evaporated, the residue taken up in Et2O and the acidic products from the filtered Et2O solution extracted with concentrated aqueous Na2CO3, the extract acidified and extracted with Et2O yielded 54% II (R = CN, n = 3), b1.0 150°, n20D 1.4770, d20 1.2660, MR 36.06; acid chloride b2 110°, n20D 1.4830, d20 1.3072, MR 39.33. Hydrolysis with H2SO4 gave HO2C(CH2)3CHClCO2H, m. 102°. Separation of the neutral products gave 2.5 g. starting material and 30% III (R = CN, n = 3), b2 116°, n20D 1.5045, d20 1.4087, MR 49.43. Similar halogenation of VI in AcOH in the presence of Hg(OAc)2 gave the tabulated products (R, % yield of RCHClCO2H, and % yield of RCHClCCl3):MeOCH2, 25, --; MeO2CCH2, 27, 55; PhCH2, 54, 37; Cl(CH2)3, 62, 30; MeO2C(CH2)3, 55, 35; NC(CH2)3, 54, 30; Cl(CH2)3, 48, 32. I (R = HCO2, n = 1) (40 g.) and 80 g. anhydrous HCO2H at 30° stirred with slow passage of Cl until no more HCl was evolved, the HCO2H removed, and the residue distilled in vacuo

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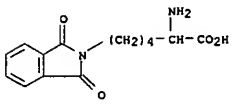
yielded 73% II (R = HCO2, n = 1), m. 66-7° (C6H6), 2 g. starting material, and 18% III (R = HCO2, n = 1), b7 93-4°, n20D 1.4932, d20 1.5622, MR 42.04. Ammonolysis of HCO2CH2CHClCO2H with 25% aq. NH4OH at 70° in an autoclave 10 hrs. yielded 83% isoserine, m. 239-40° (H2O). Results of similar chlorinations of VI in HCO2H are listed (R, % yield RCHClCO2H, and % yield RCHClCCl3 given): MeOCH2, 60, --; HCO2CH2, 78, 16; PhCH2, 63, 29; ClCH2, 60, 31; HCO2(CH2)3, 82, 9; Cl(CH2)3, 69, 23; Cl(CH2)5, 85, 9; Cl(CH2)7, 82, 6; p-C6H4(CH2CH:CCl2)2, 30. Chlorination of isourea salts HCl.H2N(:NH)CS(CH2)nCH:CCl2 (VII) in HCO2H gave α-chloro-ω-sulfocarboxylic acids, HO3S(CH2)nCHClCO2H (VIII) and the sulfonic acids, Cl3CCHCl(CH2)nSO3H (IX), sepd. as the bis(benzylisothiourea) and Na salts, resp. VII (n = 3)(5.5 g.) in 25 ml. anhyd. HCO2H at 30° bubbled through with Cl at 50 ml./min. until evolution of HCl ceased, the reaction mixt. treated with warm H2O, and the org. layer extd. with concd. aq. Na2CO3 yielded 19% IX (n = 3) Na salt monohydrate. The H2O layer evapd. in vacuo and the acid (4.4 g.) treated with aq. Na2CO3 and PhCH2SC(:NH)NH2.HCl yielded 42.5% VIII (n = 3) bis(benzylthiourea) salt, m. 111.0-11.5° (H2O). Similarly were produced the corresponding IX Na salts and VIII bis(benzylthiourea)salts, n = 3, 5, 7, 9 in 42.5, 19; 33.5, 28.7; 13-23, 42; and 11-14.5, -- % yields, resp. Phys. data for substances obtained by conjugated chlorination of compds. contg. the dichlorovinyl group were tabulated. Many of the α-chlorocarboxylic acids were converted to the corresponding α-amino acids, including racemates of natural amino acids, as well as their analogs and homologs.

IT 4403-38-7, 2-Isoindolinehexanoic acid, α-amino-1,3-dioxo-, (preparation of)
RN 4403-38-7 CAPLUS
CN 2H-Isoindole-2-hexanoic acid, α-amino-1,3-dihydro-1,3-dioxo- (9CI) (CA INDEX NAME)

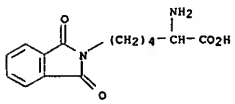


L6 ANSWER 33 OF 36 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1962:436608 CAPLUS
DOCUMENT NUMBER: 57:36608
ORIGINAL REFERENCE NO.: 57:7374h-i
TITLE: Peptide synthesis with vinyl esters of acylamino acids
AUTHOR(S): Weygand, F.; Steglich, W.
CORPORATE SOURCE: Tech. Hochschule, Munich, Germany
SOURCE: Angew. Chem. (1961), 73, 757
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable
OTHER SOURCE(S): CASREACT 57:36608

AB Vinyl esters of acyl-amino acids were prepared with vinyl acetate and PdCl2. Vinyl esters of N-trifluoroacetyl amino acids were stable on distillation: N-trifluoroacetylglycine vinyl ester, b12 106-7° m. 42.5°; valine analog, b0.05 63°. These active esters were successfully used in peptide synthesis, giving good yields and min. racemization. N-Trifluoroacetyl-L-valine benzyl-amide was prepared in NCCH2CO2Et at room temperature and crystallized after 10 min., [α]27546 -62.5° (c 2.7, EtOH). N-Trifluoroacetyl-L-valine vinyl ester and L-methyl valinate-HCl were coupled in ethyl malonate at 80° 31/2 hours. After evaporation of solvent, gas chromatography showed only 2.2% DL-compound

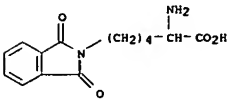
IT 4403-38-7, 2-Isoindolinehexanoic acid, α-amino-1,3-dioxo-, (preparation of)
RN 4403-38-7 CAPLUS
CN 2H-Isoindole-2-hexanoic acid, α-amino-1,3-dihydro-1,3-dioxo- (9CI) (CA INDEX NAME)



L6 ANSWER 34 OF 36 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1961:93165 CAPLUS
DOCUMENT NUMBER: 55:93165
ORIGINAL REFERENCE NO.: 55:17516e-f
TITLE: Synthesis of phthaloyl amino acids under mild conditions
AUTHOR(S): Nekfens, G. H. L.
CORPORATE SOURCE: Univ. Nijmegen, Neth.
SOURCE: Nature (London, United Kingdom) (1960), 185, 309
CODEN: NATUAS; ISSN: 0028-0836
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable

AB N-Carbethoxyphthalimide was an excellent reagent for the preparation of phthaloyl amino acids under mild conditions. Introduction of the phthaloyl group by this method did not affect the optical activity of the amino acids. H2O (30 ml.), 1.5 g. glycine, 5.75 g. Na2CO3.10H2O solution, and 4.5 g. N-carbethoxyphthalimide gave 3.72 phthaloylglycine (90.5%, m. 191°). Similarly prepared were: phthaloyl-β-alanine (91%, m. 152°), phthaloyl-L-glutamic acid (65%, m. 160°), phthaloyl-DL-serine (95%, m. 152°), phthaloyl-L-asparagine (85%, m. 199°), phthaloyl-DL-phenylalanine (90%, m. 178°), ε-phthaloyl-L-lysine (85%, m. 232°), phthaloyl-DL-methionine (96%, m. 102°), diphthaloyl-L-cystine (92%, m. 120°), and phthaloyl-L-leucine (92%, m. 110°).

IT 4403-38-7, 2-Isoindolinehexanoic acid, α-amino-1,3-dioxo- (preparation of)
RN 4403-38-7 CAPLUS
CN 2H-Isoindole-2-hexanoic acid, α-amino-1,3-dihydro-1,3-dioxo- (9CI) (CA INDEX NAME)

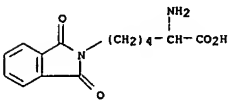


L6 ANSWER 35 OF 36 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1961:7757 CAPLUS
DOCUMENT NUMBER: 55:7757
ORIGINAL REFERENCE NO.: 55:1461h-i,1462a-d
TITLE: Simple preparation of phthaloylamino acids via a mild phthaloylation
AUTHOR(S): Nefkins, G. H. L.; Tesser, G. I.; Nivard, R. J. F.
CORPORATE SOURCE: Univ. Nijmegen, Neth.
SOURCE: Recueil des Travaux Chimiques des Pays-Bas et de la Belgique (1960), 79(No. 7), 688-98
CODEN: RTCPB4; ISSN: 0370-7539
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable
OTHER SOURCE(S): CASREACT 55:7757

AB Phthaloylamino acids were synthesized from N-carbethoxyphthalimide (I) and amino acid salts under very mild conditions in H2O. Method A. Phthalimide (145 g.) dissolved in 500 cc. HCONMe2 (DMF) and 140 ml. Et3N was treated with 100 cc. Et chlorocarbonate (II) at 5-10° with vigorous stirring. After 1 hr., the mixture reached room temperature and was poured into 3 l. H2O to give 86% I, m. 80° (EtOH). Method B. K phthalimide (92.5 g.) suspended in 250 cc. DMF (vacuum distilled from NaH) was treated at 5° with 50 cc. II. After the mixture reached room temperature, I was isolated as in A. Likewise prepared were the following phthalimides (m.p. given): N-carbomethoxy-, 183° (DMF-EtOH); N-carbobenzyloxy-, 111° (EtOH); N-p-tolylsulfoxy-, 235° (DMF). The phthaloylamino acids were prepared as follows: 1.5 g. glycine and 5.75 g. Na2CO3.10H2O in 30 cc. H2O was treated with 4.5 g. I, the mixture stirred until all I had dissolved (10-15 min.), the solution filtered and acidified with 6N HCl. The precipitated phthaloylglycine was dissolved by heating. Slow cooling separated the product in 90.5% yield, m. 191°. Similarly were prepared the following phthaloylamino acids (the amino acid, % yield, and m.p. given): -β-alanine, 91.5, 151.5°; -L-glutamic acid, 65, 160°[[α]22D 48.3° (c 3, dioxane), [α]22D 58.8° (c 1, DMF)]; -DL-phenylalanine, 90, 178°; -DL-serine, 95, 70-5° (m. 152° pure); -DL-methionine, 96, 98-9°; -L-leucine, 93, 110° (PhMe-petr. ether) ([α]25D -25.2° (c 2, 96% EtOH)]; N,N'-diphthaloyl-L-cystine, 92, 120° ([α]22.5D -289.7° (c 1, DMF)] (from this preparation a 2nd product, m. 171°, was obtained; this contained 2 moles Na to 3 moles diphthaloyl-L-cystine). Nε-Phthaloyl-L-lysine (III) was prepared by adding a CuSO4-solution (0.01 mole) to 3.65 g. L-lysine-HCl in 35 cc. H2O (containing 0.04 mole NaOH). To the blue mixture, 2 g. Na2CO3 and 5 g. I was added to give the Cu-salt of Nε-phthaloyl-L-lysine, purified by washing with H2O, CH2Cl2, EtOH, and Et2O. The dry powder was suspended in H2O, treated with concentrated HCl, and H2S at 50°, the mixture filtered, and the HCl salt precipitated with HCl-gas, in 85% yield, m. 212°. III was obtained by addition of NaHCO3 to a H2O solution of the HCl salt, m. 232°, [α]22D 22.66° (c2, DMF). α-Phthaloyl-DL-histidine(IV) was prepared by addition of 5 g. I to 3.8 g. DL-histidine-HCl in H2O (containing 0.04 mole Na2CO3). After 30 min. stirring, the solution was filtered and acidified. Evaporation to dryness gave

L6 ANSWER 35 OF 36 CAPLUS COPYRIGHT 2006 ACS on STN (Continued)
IV.HCl. This was dissolved in EtOH and neutralized with Et2NH; IV was formed on standing at 0°, yield 85%, on 296°. The reaction failed with tryptophan. The mechanism of the reaction was discussed.

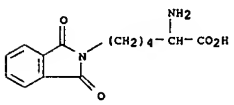
IT 4403-38-7, 2-Isoindolinehexanoic acid, α-amino-1,3-dioxo- (and derivs.)
RN 4403-38-7 CAPLUS
CN 2H-Isoindole-2-hexanoic acid, α-amino-1,3-dihydro-1,3-dioxo- (9CI) (CA INDEX NAME)



L6 ANSWER 36 OF 36 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1953:51305 CAPLUS
DOCUMENT NUMBER: 47:51305
ORIGINAL REFERENCE NO.: 47:8649h-i,8650a-b
TITLE: Amino acids and peptides. IX. γ-L-Glutamyl-L-alanine, -L-valine, and -L-leucine
AUTHOR(S): Rowlands, D. A.; Young, G. T.
CORPORATE SOURCE: Oxford Univ., UK
SOURCE: Journal of the Chemical Society, Abstracts (1952) 3937-40
CODEN: JCSAAZ; ISSN: 0590-9791
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable

AB cf. C.A. 47, 1053b. N-Carbobenzyloxy-γ-L-glutamic acid hydrazide (I) (3.6 g.) in 4 mL. concentrated HCl and 50 mL. CHCl3, treated at 0° with 1.2 g. NaNO2 in 10 mL. H2O and the CHCl3 solution of the azide added to 3 g. L-H2NCHMeCO2Et [preparation of the HCl salt, m. 76°, [α]D19 3.1° (H2O, c 2.5) in 88% yield given] in 5 mL. CHCl3 at 0°, kept several hrs. at 0° and overnight at room temperature, give 47% of the Et ester, m. 112-13°, of N-(N-carbobenzyloxy-γ-L-glutamyl)-L-alanine (II), m. 150-4° (95%); 0.5 g. II in 20 mL. aqueous MeOH, hydrogenated over Pd black, gives 94% N-(γ-L-glutamyl)-L-alanine (III), m. 185-7°, [α]D18 -22.1° (H2O, c 5). The azide prepared from 5 g. I and L-valine Me ester [the HCl salt m. 161-2°, [α]D20 15.6° (c 3.8, H2O)], followed by hydrolysis, gave 86% N-(N-carbobenzyloxy-γ-L-glutamyl)-L-valine, m. 153-6°; hydrogenation gave 90% N-(γ-L-glutamyl)-L-valine (IV), m. 207°, [α]D19 0 ± 0.5° (H2O, c 2.4). Similarly prepared, N-(N-carbobenzyloxy-γ-L-glutamyl)-L-leucine, m. 132-4° and 85-90° (91%); N-(γ-L-glutamyl)-L-leucine (V), m. 185°, [α]D19 -13.5° (H2O, c 2.3). Autohydrolysis of III gives H2NCHMeCO2H (VI) but little glutamic acid; the rate of formation of VI is closely paralleled by the formation of 5-oxo-2-pyrrolidinecarboxylic acid. IV and V are much more resistant to hydrolysis. The hydrolysis of III and the corresponding glycine was studied in acetate and phosphate buffers; the amino acids seem to be formed a little more rapidly in the latter.

IT 4403-38-7, 2-Isoindolinehexanoic acid, α-amino-1,3-dioxo- (preparation of)
RN 4403-38-7 CAPLUS
CN 2H-Isoindole-2-hexanoic acid, α-amino-1,3-dihydro-1,3-dioxo- (9CI) (CA INDEX NAME)



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Executing the logoff script...

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COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	87.79	260.22

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-12.75	-12.75

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